



Environmental Awareness among Farming Community in Rural Areas of Tehsil Samundri Faisalabad Pakistan

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Abstract

The rapid technological advancements and industrialization have resulted in an increase in negligence and insensitive behavior, leading to the destruction of environmental balance in district Faisalabad. Pollution, annihilation of species, depletion of energy resources, reduced usable agricultural land are some of the environmental destructions. This study was carried out in one tehsil of district Faisalabad. One tehsil (Samundri) was selected randomly. Two union councils (UC-119 and UC-124) were selected randomly and subsequently four villages (two from each UC), i.e., Chak No. 52/GB and 228/GB from UC-119 and Chak No. 136/GB and 373/GB were selected using random sampling technique. Moreover, 120 respondents were selected randomly from the selected villages. It was found that 28.2 % of the respondents had primary-middle

level education, 36.4 % respondents had up to Rupees. 10,000 per month income, and 58% of the respondents were unaware of such information. Majority of the respondents used electronic media for information (90.8%) and (39.2%) educational purpose, while 60.8% of them used 'to a great extent' for entertainment purpose. Of the total, 49 % farmers knew the word of climate change and 51 % of the farmers were unaware of this term or concept. Therefore, government should take reasonable steps to enhance environmental awareness among farming community to cope with its challenges in near future.

Keywords: Farmers, Awareness, Climate change behavior, Socio-economic, Greenhouse gases.

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Introduction

The United States of America (USA) provide the largest contagious irrigation system on the planet. Woods along with grazing countries cover concerning 4% along with all around 31% will be unsuitable pertaining to agriculture with large spots connected with waterlogged along with saline countries. With this qualification, climate alter influences just about all the actual groups in the nation especially influencing upon its normal water resources, energy, health, forestry, biodiversity along with a serious influence on agricultural productivity (Guodong et al., 2012).

Any improvement in temperatures adjusts the actual bio-physical human relationships by means of modifying increasing periods in the herbs, altering booking connected with showing conditions, growing plants tensions (thermal and moisture stresses), modifying irrigation normal water specifications, altering garden soil qualities, along with increasing the possibility connected with infestations along with ailments, hence negatively affecting the actual garden productiveness (Khan et al., 2011).

Technology experience about environment industry seemed to be carried out within the direction connected with Pakistan Technology Mother Board about the style “Environment 2025: Our own foreseeable future, our choices”. Societal, engineering, environmental, affordable, political along with prices (STEEPV) is usually an internationally known device pertaining to brainstorming utilized in doing technological know-how experience around the world along with seemed to be utilized by environment cell pertaining to a number of difficulties along with owners, opinions, procedures along with tasks pertaining to foreseeable future connected with environment in Pakistan (Caciuc et al., 2013).

. Greater than 20 professionals were inside the professional cell brainstorming workshops. A new varied cell seemed to be formed having manifestation via 3rd or along with Debbie agencies, Ministry connected with setting, scientists along with mentors in colleges, NGO along with exclusive industry agencies. A new consensus seemed to be realized from the cell number one a number of most significant difficulties in environment



industry as well as; (a) normal water (b) loss of biodiversity, (c) reliable throw away along with (d) energy. On top of that, delimits, solutions, policy suggestions along with venture proposals were identified pertaining to all the number of difficulties (Ahmed et al., 2009).

Identifying the exact direct, indirect, or existence benefit provided by DFS methods is a first step, and combining rigorous evaluation of ES with evaluations of willingness to pay for these services is crucial (see Glebe 2007 for a discussion on the environmental benefits of agriculture in the European context). For example, in the case of pollination services, neighboring farmers may receive a direct benefit from increased production due to improved pollination from a landowner who maintains a healthy native bee community as part of a DFS (Brosi et al., 2008).

Fare of subsistence farming families may be quite severe, especially if the subsistence component of productivity is reduced. Changes in quality and quantity of production may affect the labor productivity of the farmer and negatively influence

his/her family health (Muhammad Khan, 2007).

Global warming is predicted to result in a variety of physical effects including thermal expansion of sea water, along with partial melting of land-based glaciers and sea-ice, resulting in a sea level rise which may range from 0.1 to 0.5 meters by the middle of the next century, according to present IPCC estimates. The IPCC has projected potential impacts of climate change which could adversely affect agricultural production and food security (Wei Min, 2011).

A sea level rise could pose a threat to agriculture in low-lying coastal areas, where impeded drainage of surface water and of groundwater, as well as intrusion of sea water into estuaries and aquifers, might take place. In parts of Egypt, Bangladesh, Indonesia, China, and other low-lying coastal areas already suffering from poor drainage, agriculture is likely to become increasingly difficult to sustain. Some island states are particularly at risk (Rosenzweig and Hillel, 2008).



Pakistan was over two cropping seasons in 2008 and 2009. This study used reduced-form panel models to determine the average effects of Bt cotton technology on short-run profits, yields and farm inputs. This reduced form approach controls for biases resulting from self-selection and endogenous farm inputs. The study shows that farmers grow Bt cotton because it provides resistance against cotton boll worms infestations and gives higher yields. On average, econometric estimation suggests that Bt adopting farmers receive 10 percent higher yields per hectare, reduce per hectare pesticide use by some 22 percent, and increase per hectare use of irrigation water by 8 percent as a result of a conversion of 78% of cropped area into Bt cotton. Our estimates of the increase in cotton yield are below estimates from previous studies conducted in Pakistan and India, which do not use panel methods. Allowing more Bt cotton varieties and ensuring the availability of quality Bt cotton seeds in the market is likely to lead to further increase in the private benefits from Bt cotton, but raises legitimate concerns related to irrigation water availability and biodiversity losses (Bakhsh, 2013).

Farmer's use of different sources of information is an important way in the adoption-diffusion research in extension education. Most of the studies called awareness as pre-requisite to every technology and the first step toward adoption. It is generally believed that the source of knowledge is an important tool for awareness and guidance of respondents towards adoption to modern technologies (Steinfeld et al., 2011).

A variety of sources of information would make it easy to the farming community in consulting and providing opportunities to contact different sources of knowledge for awareness and increasing their interest. In this paper we look at the relative significance of various sources of available information factors affecting the role of Public Sector and NGO in NWFP, Pakistan. Farmers are getting information from print media, institutional sources, NGOs, local mobilize, hujra and pesticides and seed dealers. It is depicted from the results of previous studies that the respondents prioritized the source of information as Public extension department (1st), NGO (2nd) and radio (3rd) (Ahmad et al., 2009).



Objective:

The main objective of this study is to gauge the environmental awareness among farming community in rural areas of district Faisalabad.

MATERIALS AND METHODS

Sample Size:

Sample can be defined as accurate envoy of the population, which has all the characteristics of preferred population. One tehsil was selected randomly out of six tehsils. Two Union Councils were selected from the selected tehsil randomly. Four villages (two from each UC) were selected randomly. 120 respondents were selected randomly from the study area. 30 respondents were selected from the each village.

Study Area:

This study was carried out in one tehsil of District Faisalabad. Tehsil Samundri was selected randomly, two union councils (UC-119 and UC-124) were selected randomly at the third stage four villages (two from each UC) i.e. Chak No. 52/GB and 228/GB from

UC-119 and Chak No. 136/GB & 373/GB were selected randomly.

Data Collection:

The required data was collected from 120 randomly selected farmers from two union councils of Samundri tehsil. The data included all types of respondents i.e. age below 30 years(26%), 30 to 40 years (24.67%) and above 40 years (49.33%), with educational status illiterate (39.67%), literate up to primary (15%), middle (27.33%), metric and above (18%) and having land below 20 acres (50%), 20 to 40 acres (16.67%) and above 40 acres (33.33%).

Construction of data collection tool

Social science deals with human nature, Feelings, emotions and minds of human being. To study all these factors it was compulsory that data collection tool was very accurate and reliable. Interview schedule was prepared with open and close ended questions to collect the data from respondents. It was structured to get all the required information from the respondents.

Interviewing the respondents:

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Interview was conducted from respondents to collect facts. The investigator himself interviewed each respondent to make sure unbiased response and then rechecked each questionnaire for accuracy and uniformity because it was very difficult to approach the same respondent at any subsequent stage.

Collected data was analyzed using the Statistical Package for Social Sciences. Descriptive statistics, including frequencies, percentages, means and standard deviations, were used to summarize different variables. Data was interpreted with the help of a computer software i.e. statistical package for social sciences.

Data analysis:

Table 1

Responses	Frequency	Percentage
Yes	40	33.3
No	80	66.7
Total	120	100

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Table 1 shows segregation of respondents according to the environmental education at different levels. The obvious sources of environmental education are at school, college or university levels. Further analysis showed that those who attained high qualification got more information on environmental education. Contrary to those who were less educated unable to provide

information on the above mentioned question. Therefore, this information revealed the information of farmers on environmental education at different academic levels. Thus, need exists to enrich the masses on environmental education by all means so that they could handle the different environmental problems in the fields.

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Table 2

Responses	Frequency	Percentage
Yes	60	50
No	60	50
Total	120	100

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Table 2 shows the responses of farmers against the question on climate change keyword. Different farmers in the study area were asked that have they heard of climate change or not? Majority of the farmers knew this keyword. The answer were received in the form of No and Yes. Almost 50 % of the total farmers knew this word and they heard it from different sources such as TV, newspapers and from different discussants

here and there. On the other hand, 50 % of the farmers were unaware of this keyword which is most likely a fair distribution. The trend of knowing this information was correlated to the education levels. Those farmers who attained a higher degree than high school are aware of this situation while those who studied matric or under matric were unable to answer this question in Yes form.

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Figure 1

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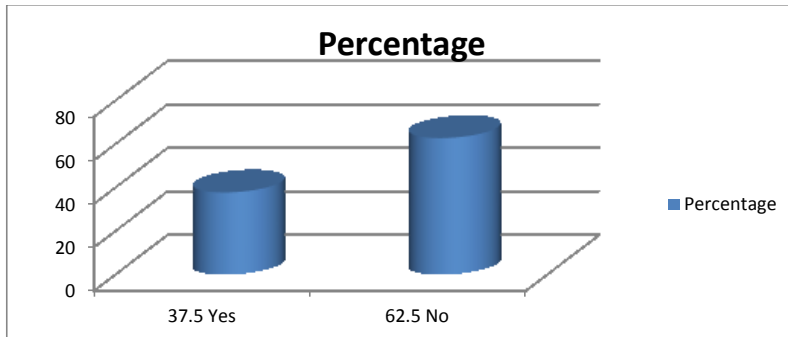


Fig. 1: Number of respondents who have the knowledge about environmental impact on farming activities.

In figure 1 is another explanation of the question that was raised to the farmers during questionnaire survey. They were asked to answer that do they know about environmental impacts on farming activities? This was quite interesting to know from the farming community. However, answers were more interesting

Figure 2

than expected. Only 37.5% of the farmers could answer yes against the above mentioned question. Rest of the 62.5% said No, they do not have any idea regarding environmental impacts. Thus, such situation declares the information levels of farming community in the district Faisalabad. It also shows that the community which is involved in the farming is not so educated. Most of them are under graduation in education degree and few of them are graduates.

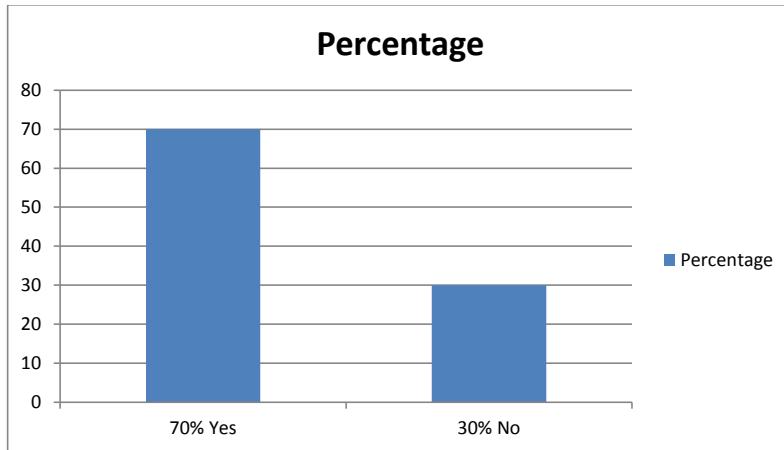


Fig.2: The observation of farmers regarding changing in weather pattern especially in the form of rain.

In figure 2 questions was inquired about the changes in the weather related to the rain especially. Results of the analysis showed that 70 % of the farmers agreed that environmental impacts are observed in the form of rains in the past few years. However, what is the extent of those impacts, yet to be known. Farmers explained that rains affected the crops in the study area time to time, however, rains have been increased from past to date. Meanwhile 30 % of the farmers answered about the raining pattern were same. They witness the changes in the rain patterns that ultimately affects the cropping pattern and vice versa.

Conclusions

The conclusions based on the present research study is, the Government should take steps to raise literacy rate in the rural area. Government should include environmental syllabus from the matric or intermediate educational level. Electronic media should play important role in the environmental awareness. Talk shows with environmental experts should provide awareness to the people. Government should make a team who visit the rural areas and spread the environmental awareness among farming community. Being a researcher, it is our responsibility to

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conduct such studies and provide information to the policy makers regarding real situation.

References

[1] Ahmed, I., M. Idrees and N. Shah (2009). An investigation into the awareness regarding the source of information among the farming community through public sector and NGOs in NWFP, Pakistan. *Sarhad J. Agric.* 25(3): 487-493.

[2] Aslam Khan, Malik Amin, Dr. Pervaiz Amir, Shakeel Ahmad Ramay, Zuhair Munawar, Dr. Waqar Ahmad (2011). National Economic & Environmental Development Study ; Executive Director of ENVORK: A Research and Development Organization. (Email :amin.attock@gmail.com).

[3] Brosi, B., P. Armsworth, and G. Daily. 2008. Optimal design of agricultural landscapes for pollination services. *Conservation Letters* 1:27-36. <http://dx.doi.org/10.1111/j.1755-263X.2008.00004.x>

[4] Caciuc Viorica - Torii (2013). Aspects of environmental awareness training in the elementary teaching system; The Teacher Training Department, "Dunărea de Jos" University of Galați, str. Garii, no 63-65, 800003, Romania. (E-mail address: caciuca@yahoo.com).

[5] Guodong Yan, Jiancheng Kang, Guodong Wang, Hai Lin, Jiong Zhu, Chao Liu, Wenzheng Sun, Yan Li, Tao Jin (2012). Change trend of public environmental awareness in Shanghai (2007 to 2011). Urban ecology and environment research center, Shanghai Normal University, Shanghai, 200234, China. (E-mail address: kangjc@126.com).

[6] Muhammad Khan (2007). Using health belief model to understand pesticide use decision; PhD student in Federal Urdu University of Arts Science & Technology, Islamabad (mkhan_490@hotmail.com), mkhan_490@yahoo.com).

[7] Khuda Bakhsh (2013). Economic and Environmental Impacts of Bt Cotton:

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Evidence from Pakistan Institute of Agricultural and Resource Economics, University of Agriculture, Faisalabad, Pakistan Email: kbmultan@uaf.edu.pk

Rosales and Cees de Haan. "Livestock's Long Shadow: Environmental Issues and Options." Food and Agriculture Organization of the United Nations. 29 Nov. 2006. Web. 10 Nov. 2011.

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[8] Rosenzweig, C. and D. Hillel. 2008. Climate Change and the Global Harvest: Impacts of El Nino and Other Oscillations on Agro-ecosystems. Oxford University Press, New York.

[10] Wei Min (2011).An analysis on environmental awareness and behavior in chinese hospitality industry. A case of xiamencity.School of management,XiamenUniversity,Xiamen (361005,China). (E-mail address: xiada2000@126.com).

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[9] Steinfeld, Henning, Pierre Gerber, Tom Wassenaar, Vincent Castel, Mauricio

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